

Terrorism

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Signs of Criminal and Terrorist Activity

While it's impossible to tell whether a person is planning to engage in criminal or terrorist activities just by looking at them, there are definite observable signs of terrorist and criminal activity citizens should watch out for. They include:

- **Surveillance:** Recording or monitoring activities, drawing diagrams, making notes on maps, using vision-enhancing devices such as binoculars or possessing plans or blueprints of high-tech firms, government or military facilities, hotels, power facilities or roadways.
- **Elicitation:** Attempting to gather information such as security rotations and patrols, when employees come and go and when and how deliveries are made. In a residential area, potential criminals may ask neighbors about work schedules or vacation plans.
- **Testing security:** Trying to break through physical security barriers like locked doors or fences or attempting to gain access to a facility by circumventing metal detectors or check points.
- **Acquiring supplies:** Perpetrators may purchase or steal public safety, law enforcement or military vehicles, equipment, identification badges, uniforms or decals. They may seek explosives, weapons, ammunition, harmful chemicals or chemical equipment.
- **Suspicious persons who don't belong:** Someone in a workplace, building, neighborhood, business or other public venue whose behavior seems suspicious because of the unusual questions they ask, the statements they make or their demeanor.
- **Dry or trial runs:** Before carrying out the final operation or plan, some criminals and terrorists may conduct a dry run or trial run. A trial run consists of putting people and resources into position and moving them around according to the plan without actually committing the illegal act.
- **Deploying assets or getting into position:** If you see someone arranging equipment, or other suspicious supplies or placing people at or near a target, you may only have a few seconds to report the activity to law enforcement.

Be alert to your surroundings

Alert and informed citizens are frequently instrumental in deterring criminal activities.

- Pay attention to those around you.
- Be alert to suspicious behavior.

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If you see something, say something

If you think something isn't right, report it to security, local police, Indiana State Police, the Indiana Intelligence Fusion Center (866-400-4432) or, if you believe danger is imminent, call 9-1-1.

What to know when making a report

Always remember, your safety comes first. Do not approach or otherwise attempt to interfere with suspicious individuals. If you can do so safely try to remember these details:

- Number of people involved.
- Key physical features like ethnicity, hair color, height, weight, age and other distinguishing characteristics.
- Details about any vehicles, including license plate number, make, model, color, damage or bumper stickers.

Biological Threats

Biological attacks are a purposeful release of germs and other viral or bacterial substances. This is very dangerous because there are little to no warning signs. The most common sign of this attack is when health care workers notice that a larger than normal group of individuals come in with the same symptoms.

Things to know about viral biological weapons:

- Require a host for them to live. Once infected there is no cure, only the symptoms can be treated.

Bacterial biological weapons:

- Weapons that are capable of multiplying and surviving on their own. They can be treated via antibiotics if caught early enough.

Biological release:

- If there was release in the area, get away immediately.
- Cover your mouth and nose with multiple layers of fabric.
- Cover any open cuts.
- Wash with lots of soap and water.

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- Listen to radio, TV or Internet to determine what steps to take.
- If you become ill, alert hospital that you may have been exposed and follow their instructions.

If you are exposed:

- Follow instructions of doctors and public health officials.
- You will probably be quarantined until health officials determine if it is contagious and what the threat is.
- If you think you have been exposed to a biological emergency, listen to the radio and TV to determine if your symptoms match the ones given. If they do, head to the hospital.

Chemical Threat Awareness

Chemical attacks are a deliberate release of toxic solids, liquids or gases. These are very harmful not only to people, but the environment as well. If exposed to a chemical attack, contact your local emergency personnel immediately.

Chemical weapons:

- Are man-made and come in a liquid or gas form. They affect a person's nervous system, blood, skin or lungs. They cause blistering, inability to breathe, vomiting, loss of bodily control and possibly death.

Chemical agents:

- Can be used as a weapon - are hazardous chemicals that have serious effects on people who are exposed. Examples are bombs, aerosol devices or even crop-dusting airplanes.

Exposure:

Common symptoms if exposed are:

- Watery eyes
- Twitching
- Choking

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- Having problems breathing
- Loss of coordination

What to do:

- Find clean air.
- Do NOT be downwind of the contamination.
- Move as far away as possible from the contamination.
- Remove clothing by cutting it off. Do NOT pull contaminated clothing over your head. Then put into plastic bags and put it far away from other persons.
- Decontaminate by taking a shower with lots of soap and water. Be sure to NOT scrub the chemical into your skin. You want to wash it off instead.
- If you are stuck in a building and can't get out without going past the chemical agent/material, find clean air or start to barricade yourself as far away as possible. Contact authorities as soon as possible.

Nuclear Threat Awareness

A nuclear bomb creates an explosion that will have an intense blast wave and produce radioactive material which will be deposited over a large area contaminating the air, water and other surfaces. The bomb also has an extremely bright flash and intense heat associated with it. Radioactive material can cause death.

If there is a warning:

- If a warning occurs, take cover immediately. Underground is the safest place to receive protection from the blast.
- Do NOT look at the explosion - the flash could blind you.
- Get on the ground face down, turn away, cover your eyes and place your hands under your body.
- Caution: A blast wave may take 20-30 seconds to reach you so remain down until it passes.
- Immediately seek shelter and start to isolate yourself from the outside.
- Shield yourself from possible radiation exposure.
- The further you can get away from the blast, the better.
- Minimize the time you are exposed to any possible radiation.

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If there is no warning:

- Shield yourself from possible radiation exposure.
- Cover eyes and nose with a piece of cloth while running to shelter.
- Remove any dirt or debris that might be on your clothing.
- Put clothes in plastic bags and seal them tightly, then put them in a room far away from you.
- Take a shower and scrub with lots of soap and water. Earlier you say not to scrub???
- Finally, you can start to tape off a room that you will stay in.
- Bring plenty of supplies.
- Close vents, turn off a/c or heater, turn off fans, close fireplace dampers, lock all doors and close and lock windows.
- The further you can get away from the blast, the better.
- Minimize time spent in the radiation zone.
- Most radiation from the blast will travel with the wind. Try and stay up wind.
- Don't stay outside longer than you have to. Get in and get clean as soon as possible.
- Eat only stored food, nothing fresh.
- Listen to radio and watch TV in order to find out what actions need to be taken.

Nuclear Threat Preparedness

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- Take a shower and scrub with lots of soap and water.
- Finally, you can start to tape off a room that you will stay in.
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- Don't stay outside longer than you have to. Get in and get clean as soon as possible.
- Eat only stored food, nothing fresh.
- Listen to radio and watch TV in order to find out what actions need to be taken.

Nuclear Blasts

A nuclear blast is an explosion with intense light and heat, a damaging pressure wave and widespread radioactive material that can contaminate the air, water and ground surfaces for miles around. A nuclear device can range from a weapon carried by an intercontinental missile launched by a hostile nation or terrorist organization, to a small portable nuclear device transported by an individual. All nuclear devices cause deadly effects when exploded, including blinding light, intense heat (thermal radiation), initial nuclear radiation, blast, fires started by the heat pulse and secondary fires caused by the destruction.

Hazards of Nuclear Devices

The extent, nature and arrival time of these hazards are difficult to predict. The geographical dispersion of hazard effects will be defined by the following:

- Size of the device. A more powerful bomb will produce more distant effects.
- Height above the ground the device was detonated. This will determine the extent of blast effects.

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- Nature of the surface beneath the explosion. Some materials are more likely to become radioactive and airborne than others. Flat areas are more susceptible to blast effects.
- Existing meteorological conditions. Wind speed and direction will affect arrival time of fallout; precipitation may wash fallout from the atmosphere.

Radioactive Fallout

Even if individuals are not close enough to the nuclear blast to be affected by the direct impacts, they may be affected by radioactive fallout. Any nuclear blast results in some fallout. Blasts that occur near the earth's surface create much greater amounts of fallout than blasts that occur at higher altitudes. This is because the tremendous heat produced from a nuclear blast causes an up-draft of air that forms the familiar mushroom cloud. When a blast occurs near the earth's surface, millions of vaporized dirt particles also are drawn into the cloud. As the heat diminishes, radioactive materials that have vaporized condense on the particles and fall back to Earth. The phenomenon is called radioactive fallout. This fallout material decays over a long period of time, and is the main source of residual nuclear radiation.

Fallout from a nuclear explosion may be carried by wind currents for hundreds of miles if the right conditions exist. Effects from even a small portable device exploded at ground level can be potentially deadly.

Nuclear radiation cannot be seen, smelled or otherwise detected by normal senses. Radiation can only be detected by radiation monitoring devices. This makes radiological emergencies different from other types of emergencies, such as floods or hurricanes. Monitoring can project the fallout arrival times, which will be announced through official warning channels. However, any increase in surface build-up of gritty dust and dirt should be a warning for taking protective measures.

Electromagnetic Pulse

In addition to other effects, a nuclear weapon detonated in or above the earth's atmosphere can create an electromagnetic pulse (EMP), a high-density electrical field. An EMP acts like a stroke of lightning but is stronger, faster and shorter. An EMP can seriously damage electronic devices connected to power sources or antennas. This includes communication systems, computers, electrical appliances and automobile or aircraft ignition systems. The damage could range from a minor interruption to actual burnout of components. Most electronic equipment within 1,000 miles of a high-altitude nuclear detonation could be affected. Battery-

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powered radios with short antennas generally would not be affected. Although an EMP is unlikely to harm most people, it could harm those with pacemakers or other implanted electronic devices.

Exposure vs. Contamination

An individual is exposed to radioactive material if he/she is close enough to be harmed by it. An individual is contaminated by radioactive material if he/she has radioactive material either in or on their body.

Like getting an x-ray at a hospital, the individual is exposed to the x-rays, but cannot pass that exposure on to anyone else after the procedure is finished. Someone who has been exposed to radioactive material does not become radioactive. He/she cannot pass on that radiation to anyone else.

However, a person who is contaminated by radioactive material has radioactive material in or on his/her body. He/she can expose other people. An individual can become contaminated by ingesting or inhaling radioactive materials or walking through contaminated fallout.

If an individual is contaminated he/she is continuing to be exposed and expose others to radioactive material and should be decontaminated as soon as possible.

Food Safety

- Turn off your water until authorities indicate it is safe. Water already in your water heater, ice maker and toilet tanks is safe to drink and bathe in.
- Any unpackaged food or water that was out in the open and close to the incident may have radioactive dust on it. Therefore, do not consume water or food that was out in the open.
- The food inside of cans and other sealed containers will be safe to eat. Wash the outside of the container before opening it.
- Home grown produce should be tested for radioactive contamination before it is consumed. Checking for contamination at home gardens and small-scale farms may not begin for weeks after the emergency.
- Authorities will monitor food and water quality for safety and keep the public informed.

Radiation Duration

How long will the radiation threat last?

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- The heaviest fallout would be limited to the area at or downwind from the explosion; 80% of the fallout would occur during the first 24 hours.
- People in most of the areas that would be affected could be allowed to come out of shelter within a few days and, if necessary, evacuate to unaffected areas.
- Radioactive fallout poses the greatest threat to people during the first two weeks, by which time it has declined to about 1% of its initial radiation level.
- However, the amount of fallout will vary based on the size of the device and its proximity to the ground. Therefore, it might be necessary for those in the areas with highest radiation levels to shelter for up to a month.

Remember the following when returning home:

- Keep listening to radio and television broadcasts for news about what to do, where to go and places to avoid.
- Stay away from damaged areas. Stay away from areas marked “radiation hazard” or “HAZMAT.”
Remember that radiation cannot be seen, smelled or otherwise detected by human senses.

Radiological Incident Talking Points

State EOC activation level

The State Emergency Operations Center (EOC) has been activated at the highest level and will remain activated 24 hours a day to monitor conditions and provide resource support to local county emergency agencies.

A Joint Information Center (JIC) has been established to coordinate information and public safety messages.

Members of the media only may contact the JIC at 317-238-1784.

Public Safety and Protective Action Guidance

Immediate action message

We believe a [nuclear/radiological incident] has occurred at [Location] here in [City].

Remain calm.

Know where you are. Remembering where you were at the time of the blast will help public health and safety officials determine your level of exposure later.

Go deep inside:

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- Find the nearest and strongest building you can and go inside to avoid any radioactive dust outside.
- If better shelter, such as a multi-story building or basement can be reached within a few minutes, go there immediately.
- If you are in a car, find a building for shelter immediately. Cars do not provide adequate protection from radiation from a nuclear detonation.
- Go to the basement or the center of the middle floor of a multi-story building (for example, the center of the 5th floor of a 10-story building or the 15th floor of a 30-story building).

This may feel like it goes against your natural instinct to evacuate from a dangerous area; however, health risks from radiation exposure can be greatly reduced by:

- Putting building walls, brick, concrete or soil between you and the radioactive material outside, and
- Increasing the distance between you and the exterior walls, roofs and ground, where radioactive material is settling.

Stay inside:

- Do not come out until you are instructed to do so by authorities or emergency responders.
- Do NOT attempt to retrieve children or other family members from schools or other facilities unless public safety authorities indicate it is safe to do so. If you have children or loved ones who are not with you, your first instinct may be to find them. However, you must remember that leaving people sheltered where they are is the best way to protect them. Schools have emergency plans and shelters so if your children are at school, it is usually best for them to stay there until authorities tell you it is safe to travel.

Stay tuned to television and radio broadcasts for important updates:

- If your facility has a National Oceanic and Atmospheric Administration (NOAA) Weather Radio, this is a good source of information.
- If you have been instructed to stay inside, stay tuned because these instructions will change.

Radiation levels are extremely dangerous after a nuclear detonation but the levels reduce rapidly, in just hours to a few days.

During the time with the highest radiation levels it is safest to stay inside, sheltered away from the material outside.

When evacuating is in your best interest, you will be instructed to do so.

- People in the path of the radioactive plume – downwind from the detonation - may also be asked to take protective measures.

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- Avoid using telephones and cell phones unless you have an emergency. If local lines are overwhelmed, you may be able to get a call through to an out-of-state contact. Text messages may also have a better chance of getting through than a phone call. Remember, you CANNOT text 9-1-1.

Self-decontamination, food and water safety:

We believe a [nuclear/radiological incident] has occurred at [Location] here in [City].

- If you live anywhere in the metropolitan area, you should be inside a stable building.
- If you were outside at the time of the explosion and located in [Specify Area], there are simple steps you can take to remove radioactive dust that you may have on your body.
- Remove your clothing to keep radioactive dust from spreading.
- You should act as if you are going home covered in mud and you do not want to track mud in your home.
- If practical, place your clothing in a plastic bag and seal or tie the bag.
- Place the bag as far away as possible from humans and animals so that the radiation it gives off does not affect others.
- Removing the outer layer of clothing can remove up to 90% of radioactive dust.
- When possible, take a shower with lots of soap and water to limit radiation contamination. Do not scrub or scratch the skin.
- Wash your hair with shampoo or soap and water. Do not use conditioner in your hair.
- Gently blow your nose and wipe your eyelids and eyelashes with a clean wet cloth. Gently wipe your ears.
- Put on clean clothing.
- If you cannot shower, use a wipe or clean wet cloth to wipe your skin that was not covered by clothing.

For food safety:

- Rinse all counters, plates, pots and utensils before use to remove any radioactive material that settles on them.
- Food in your refrigerator or freezer is safe to eat, if you have not lost power.
- Food in sealed containers is also safe to eat.
- Rinse the outside of all packaged food before opening them.

For water safety:

- Turn off your water immediately. Water already in your water heater, ice maker and toilet tanks are safe to drink and bathe in.
- Bottled water is the only source that we are certain is free of contamination.
- Before opening, use a clean towel to wipe off the bottle to remove any contaminants.

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- It is important to note that most distribution systems have several days of water supply in covered storage.
- If you have water pressure and need water to drink, save water in clean containers for drinking.

Is the air safe to breathe?

- This explosion released large amounts of dust and debris into the air.
- Radioactive material is one of many pollutants released by this event.
- The radioactive material released in the air is dangerous for the area downwind from the explosion.
- Please follow safety instructions provided by state and local officials and stay tuned because instructions will change.
- Covering your mouth and nose with a protective layer – like a mask, cloth or towel – can help reduce the amount of particles you breathe.
- If you have been instructed to stay inside, it is because walls provide protection from the radioactive material outside.
- Radiation levels are extremely dangerous after a nuclear detonation but the levels reduce rapidly, in just hours to a few days.
- We are tracking the radiation levels and authorities will instruct you to leave the area when it is safest and in your best interest to do so.

What are the most appropriate actions to be taken by the public? What can people do to protect themselves from harm?

Follow the instructions from state and local officials and responders.

These instructions are based on the best information we have right now and may be different for different areas.

These instructions may change as we gather more information.

These instructions are for your safety.

Hoosiers can best help by:

Stay tuned to television and radio broadcasts for important updates.

Things will change and you will be kept fully informed.

You can also get information on the Internet at [website].

Avoid using telephones and cell phones unless you have an emergency.

If local lines are overwhelmed, you may be able to get a call through to an out-of-state contact.

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Text messages may also have a better chance of getting through than a phone call.

Remember, you CANNOT text 9-1-1.

This will free up lines so people who are in need can call for help and emergency responders can contact each other.

Stay away from the disaster area so emergency responders can assist those who need help.

Visit websites of local community support and volunteer groups to see how you can help support those in need [Provide links to volunteer sites].

Obey all directions from police officers, firefighters and other public safety officials.

Three factors to remember when sheltering:

- Distance - the more distance between you and the fallout particles, the better. An underground area such as a home or office building basement offers more protection than the first floor of a building. A floor near the middle of a high-rise may be better, depending on what is nearby at that level on which significant fallout particles would collect. Flat roofs collect fallout particles so the top floor is not a good choice, nor is a floor adjacent to a neighboring flat roof.
- Shielding - the heavier and denser the materials - thick walls, concrete, bricks, books and earth - between you and the fallout particles, the better.
- Time - fallout radiation loses its intensity fairly rapidly. The heaviest fallout would be limited to the area at or downwind from the explosion, and 80% of the fallout would occur during the first 24 hours. Radioactive fallout poses the greatest threat to people during the first two weeks, by which time it has declined to about 1% of its initial radiation level.

Who should evacuate and who should seek shelter (go inside and stay inside)?

We are working to reduce people's exposure to dangerous levels of radioactivity.

Radiation levels are extremely dangerous after a nuclear detonation but the levels reduce rapidly, in just hours to a few days.

During the time with the highest radiation levels it is safest to stay inside, sheltered away from the material outside.

As radiation levels decrease, safety measures may change.

If you are told to shelter, go to the basement or the center of the middle floor of a multi-story building (for example, the center of the 5th floor of a 10-story building or the 15th floor of a 30-story building).

This may feel like it goes against your natural instinct to evacuate from a dangerous area; however, health risks from radiation exposure can be greatly reduced by:

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- Putting building walls, brick, concrete or soil between you and the radioactive material outside, and
- Increasing the distance between you and the exterior walls, roofs and ground, where radioactive material is settling.
- Individuals who are sheltering will be instructed to leave the area as soon as the risk from exposure decreases.
- People in the path of the radioactive plume may be asked to take protective measures.
- Please follow instructions from responders.

Whether you are told to stay inside or evacuate, these instructions are meant to limit your exposure to high levels of radiation and reduce your risk of contamination.

If you are advised to evacuate:

- Do NOT evacuate unless you are instructed to do so by public safety officials. It is important to wait until you are told to evacuate so that you will know which direction the radioactive plume is moving and how to avoid it.
- Listen to the radio or television for information about evacuation routes, temporary shelters and procedures to follow.
- Before you leave, close and lock windows and doors and turn off air conditioning, vents, fans and furnace. Close fireplace dampers.
- Take disaster supplies with you (such as a flashlight and extra batteries, battery-operated radio, first aid kit and manual, emergency food and water, nonelectric can opener, essential medicines, cash and credit cards and sturdy shoes).
- Remember your neighbors may require special assistance, especially infants, elderly people and people with disabilities.
- Visit in.gov/dhs/files/travel-advisory-map/ for updated county travel advisories.

I have been instructed to stay inside, but I have no food, water or needed medications. What should I do?

- Continue to remain sheltered for as long as you can until you receive additional instructions from authorities.
- The longer you stay sheltered the safer you will be from radiation and other hazards associated with the incident.
- Please remember that leaving your location may expose you to harmful radiation that could further injure you as well as those assisting in response efforts.
- Once authorities provide instructions that it is safe to go outside, please proceed to designated shelters if you require food, water or medical attention.

For food or water concerns:

Authorities are aware of the limitations in food and water and are making efforts to resolve these issues.

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For needed medication concerns:

Stay sheltered for as long as possible.

If the lack of medications creates a life-threatening condition that requires immediate medical attention, please call 9-1-1 or proceed to the nearest fire station, hospital or pre-determined medical triage area for help.

For non-life threatening medical care:

If you have injuries that are not life-threatening, please remain in your shelter until it is safe to proceed to your nearest fire station, hospital or pre-determined medical triage area for help.

Will there be shelters that I can stay in once an evacuation is ordered? How long can I stay there?

Yes, designated shelters will be available.

Even though shelters often provide water, food, medicine and basic sanitary facilities, you should plan to take your disaster supplies kit with you so you will have the supplies that you require.

Is the water safe to drink?

Turn off your water until authorities indicate it is safe. Water already in your water heater, ice maker and toilet tanks is safe to drink and bathe in.

Until we have verified test results, if you are in the affected area OR if your water source is in the affected area, bottled water is the only source that we are certain is free of contamination.

If you have been asked to stay inside, it is because radiation levels outside are dangerously high. Do not go out looking for bottled water.

If you have bottled water, before opening, use a clean towel to wipe off the bottle to remove any contaminants.

It is important to note that most distribution systems have several days of water supply in covered storage. Even above ground sources contain large amounts of water that would significantly dilute radioactive contamination.

If you have water pressure and need water to drink, save water in clean containers for drinking.

We have started to collect water samples. The analyses take time.

Once the samples get to the laboratory, we may have initial results within several hours.

Complete analysis can take weeks.

Please follow the instructions of state and local officials and responders.

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As we gather more information, instructions may change.

As the data is received and verified we will work with state and local officials and responders to release the information.

Is the food safe to eat?

- If you are concerned about the safety of your food, as always, wash your hands with soap and water before handling any food.
- This will help remove radioactive material from your hands, limiting spread to your food.
- Rinse all food contact surfaces; counters, plates, pots and utensils before use to remove any radioactive material that may have settled on them.
- In order to keep radioactive material from falling on areas that you already cleaned, remember to work from the higher areas to the lower levels.
- Food in your refrigerator or freezer also is safe to eat, if you have not lost power.
- Keep food off counters or anything else that could be contaminated with radioactive material.
- Do not pick or eat produce from your garden.
- You can use sealed or frozen food and liquids.
- Rinse the outside of all packaged food before opening them.
- Consumers can call the toll-free U.S. Department of Agriculture Meat and Poultry Hotline 24 hours a day at 1-888-MPHotline (1-888-674-6854); for the hearing-impaired (TTY) 1-800-256-7072.

Can I eat food from my garden?

Home gardeners and small-scale farmers should wait for a field monitoring team to help them, or for further instructions from local and state agriculture and health agencies.

Home-grown produce should be tested for radioactive contamination before it is consumed. Checking for contamination at home gardens and small-scale farms may not begin for weeks after the emergency.

It is likely that the radioactive fallout has contaminated the ground and any crops that were planted.

Listen for instructions from state and local officials and responders regarding food safety.

Is my pet's food safe?

Just like our food, if pet food is sealed, it should be safe to consume.

If the outside of the can or package appears to have dust or debris on it, rinse the closed item with tap water or wipe with a disposable damp cloth.

What are the options for evacuation and sheltering my pets?

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While pets are accepted at some facilities, for public health reasons, many large-scale emergency shelters cannot accept pets.

We understand that for many of you, your pets represent members of your family and designated mass shelters will make every attempt to help your pets.

Please understand, however, that preserving and protecting human life takes priority.

If you are evacuating with a pet:

If possible and easily accessible, bring a cage, leash, food and veterinary records, including immunization records.

Understand that pets will not be allowed into any shelter until they are thoroughly washed to remove any radioactive material.

There are several sheltering options for your pet that may be available.

Stay with friends or relatives outside the evacuation area who will house both you and your pet.

You can try locating a motel or hotel that will allow you to stay with your pet.

Listen to local radio/news broadcasts for information on pet evacuation and the locations of available pet shelters

What should I do with my crops?

While lifesaving is still our primary focus as this point, we understand that you are concerned about your crops, which are your livelihood.

Similar to the advice on eating food from a garden, we are asking farmers in [AREA] to not eat or distribute their crops until we get monitoring and sampling results back.

We know that this is frustrating, and state and local officials will keep you informed as results come in.

What should I do with livestock?

If you are being asked to stay inside or evacuate, follow the instructions of state and local officials.

These instructions are for your safety.

If you are outside the shelter and evacuation areas, there are a few simple steps you can take for the safety of your livestock:

- Shelter you livestock.
- Wash your livestock thoroughly with soap and water.
- Use stored feed and cover water.

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- Move lactating dairy cows, beef cattle, swine and other meat-producing livestock to shelters and give them only stored feed and water from protected source.
- Disconnect storage containers which are supplied by runoff from their sources to prevent contamination.
- Hay or silage stored outside without a cover can be used for feed if the top foot of the loose stack or the top layer from the bale is removed. Care should be taken in removing the top layer to avoid contaminating other parts. Cover uncontaminated area with a new tarp or plastic cover to avoid further contamination.

As we get monitoring and sampling data we will be able to provide additional instructions.

If you were outside at the time of the explosion:

Protect yourself as much as possible from inhaling radioactive materials by covering your mouth and nose with a scarf, handkerchief or other cloth until officials announce that the fallout cloud has passed.

Seek shelter indoors immediately in the nearest undamaged building.

If appropriate shelter is not available, move as rapidly as is safe upwind and away from the location of the explosive blast. Then, seek appropriate shelter as soon as possible.

If walking to a shelter, don't forget an emergency kit.

Right before going to a sheltered area, remove your outer layer of clothing to remove any radioactive material. Follow the decontamination procedures below.

Remember, you cannot see, feel, smell or taste radiation, so you may not know if you have been exposed.

What should I do if I am on a boat and near the impacted area?

If you are in a boat on the water, return to a marina or boat landing and find a building for shelter immediately.

Boats do not provide adequate protection from radioactive material.

If another blast occurs:

- Turn away and close and cover your eyes to prevent damage to your sight.
- Drop to the ground face down and place your hands under your body.
- Remain flat until the heat and two shock waves have passed (The first wave is the air being pushed away from the explosion; the second is the air being sucked back in to fill the void.). If the explosion is some distance away, it could take 30 seconds or more for the blast waves to hit.
- Don't touch unusual metal debris or glowing objects.

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Federal, state and local partners are monitoring the air across the country to determine the location and levels of radioactive material in the air.

Weather will be a major factor in determining where the radioactive material goes because it is carried by the wind as it moves through the atmosphere and can be brought to the ground by precipitation.

We will work with federal and local officials to release the monitoring information as soon as possible.

Remember the following when returning home:

- Keep listening to radio and television broadcasts for news about what to do, where to go and places to avoid.
- Stay away from damaged areas. Stay away from areas marked “radiation hazard” or “HAZMAT.” Remember that radiation cannot be seen, smelled or otherwise detected by human senses.
- Officials will be sampling the contamination levels in your area. Do not consume produce from home gardens until officials indicate it is safe to do so.
- Officials will provide instructions about what to do with items left outside (lawn furniture, toys, etc).

Situation Update

What happened?

- We can confirm there was a [nuclear/radiological incident] at [LOCATION] in [CITY].
- Please be aware that radiation cannot be seen.
- If you are outside of the blast zone, your surroundings may appear normal; however, danger may still exist.
- We are working to define the areas at high risk for fallout.
- Please continue to listen and follow specific instructions.
- We are responding to this devastating event.
- With the limited amount of information we have at this time, we are monitoring the path of the radioactive plume and the radioactive fallout from the explosion.
- Based on this information, emergency responders are assessing and identifying dangerous areas.
- Rescue, evacuation and recovery efforts are underway.
- As the situation evolves you will be kept fully informed. Stay tuned to local radio or television broadcasts or a NOAA all hazards alert radio.
- Radiation levels will continue to decrease over time.
- As the situation changes, those of you who have been instructed to stay inside may be asked to leave the area; but not until it’s appropriate to do so.
- If you are asked to leave, do so quickly and follow specific instructions.

How many people were harmed?

Terrorism

- We know there were many people harmed in this attack, but we won't speculate on the specific number.
- We also know that there are many people out there who need our help.
- We are focused on getting them that help as quickly and safely as possible.

How many people have died?

- While we won't speculate on the number of casualties, we know the nation is mourning.
- Now we must focus on saving as many lives as possible.

What was the location of the bomb when it exploded?

- We know that the detonation took place in [CITY]
- We have experts working on identifying the exact location of the detonation.
- We know that people in that area are in immediate danger from radiation exposure.
- We need people in this area to get inside and stay inside until told otherwise.
- This may feel like it goes against the natural instinct to evacuate from a dangerous area; however, health risks from radiation exposure can be greatly reduced by putting building walls, brick, concrete or soil between you and the radiation outside.
- This can help save your life.

When did the detonation occur?

- The bomb exploded at [TIME].
- It is important to note that radiation levels are extremely dangerous after a nuclear detonation but the levels reduce rapidly, in just hours to a few days.
- Follow the instructions of state and local officials and responders. These instructions are for your safety.
- Stay tuned to TV and radio for instructions.

How big was the explosion?

- It is too early to know the size of the explosion.
- However, this is a very serious radiological disaster.
- At this time we are focusing on saving as many lives as possible.

What are the radioactive materials involved in the attack?

- Radiation levels are extremely dangerous after a nuclear detonation but the levels reduce rapidly, in just hours to a few days.
- Please follow instructions from responders.
- Whether you are told to go inside or evacuate, these instructions are meant to limit your exposure to high levels of radiation and reduce your risk of contamination.

Terrorism

- If you are told to shelter, go to the basement or the center of the middle floor of a multi-story building (for example, the center of the 5th floor of a 10-story building or the 15th floor of a 30-story building).
- This may feel like it goes against your natural instinct to evacuate from a dangerous area; however, health risks from radiation exposure can be greatly reduced by:
 - Putting building walls, brick, concrete or soil between you and the radioactive material outside, and
 - Increasing the distance between you and the exterior walls, roofs and ground, where radioactive material is settling.

Where is the fallout going?

- Based on the limited information we have at this time, the radioactive plume appears to be moving from [CITY] in a [DIRECTION] towards [AREA].
- People in the path of the radioactive plume may be asked to take protective measures.
- Please follow instructions from responders.
- Whether you are told to seek shelter or evacuate, these instructions are meant to limit your exposure to high levels of radiation and reduce your risk of contamination.
- If you are told to shelter, go to the basement or the center of the middle floor a multi story building (for example the center of the 5th floor of a 10- story building or 15th floor of a 30-story building).
- This may feel like it goes against your natural instinct to evacuate from a dangerous area; however, health risks from radiation exposure can be greatly reduced by:
- Putting building walls, brick, concrete or soil between you and the radioactive material outside, and
- Increasing the distance between you and the exterior walls, roofs and ground, where radioactive material is settling.
- The further away you are from the point of the explosion, the less airborne radioactive material will reach your area.
- The larger particles, containing greater amounts of radioactive material, fall to the ground in the area closest to the explosion.

Where is the perimeter of the hot zone? Where is the radioactive material located?

- Based on the limited information we have at this time, the radioactive plume appears to be moving from [CITY] in a [DIRECTION] towards [AREA].
- We are monitoring to determine the location of the radioactive fallout.
- We are working to get people out of the areas with highest levels radiation exposure.
- In some cases this means we are asking people to stay inside to wait for some of the most dangerous radiation levels to reduce, which takes hours to a few days.
- In these cases they will be safer staying inside than evacuating outside.

Terrorism

- They will be instructed to leave the area as soon as the risk from exposure decreases.
- Responders are working to save lives as close to the impacted area as possible.
- We need to keep our responders safe so they can do their jobs.

What can we expect next?

- Expect things to keep changing.
- For the time being, focus will continue to be on assessing the risks to the public in and around the affected area and providing food, shelter and medical attention to those in need.
- We are gathering more information on everything including structural damage, radiation exposure, location of the radioactive plume and how quickly the radioactive material is disappearing.
- State and local officials may issue further instructions with additional actions for people to take to protect themselves.
- There are ways we can all support the on-going effort:
 - Care for those around you. This incident has directly impacted people across the state.
 - If possible, please support the American Red Cross relief efforts by donating time, blood or money. More information on how you can help is available on www.redcross.org.
 - Contact your local community support and volunteer groups to see how you can help support those in need [Provide links to volunteer sites].

How long will it be before the situation returns to normal?

- We all want to return to normal, which is why so many people from across the country, from so many communities, are helping to respond to this attack.
- As we found after 9/11, normal after the attack may not look like normal before the attack.
- We, as a city and a nation, will recover from this tragedy, but recovery is a process that will not occur overnight.
- A long, difficult cleanup awaits and the most important goal of the cleanup is to keep people safe.

Is there concern about a second nuclear detonation?

- It would be irresponsible not to be concerned.
- This is why we are taking all available security precautions to protect the American people.
- As a state, during this time of crisis, we must continue to be alert.
- If you see anything suspicious please contact the *FBI at [phone number]*.
- Stay tuned to broadcasts for important updates.
- Things will change and you will be kept fully informed. Stay tuned to local radio or television broadcast or listen to an NOAA all-hazards alert radio.

Is the situation under control?

Terrorism

- Federal, state and local governments are coordinating closely to respond in the most effective manner.
- We have radiation specialists working closely with responders to help maximize our ability to respond while keeping our responders safe.

What effects will this have on the people involved?

- Assessment of the scope and magnitude of the incident is ongoing.
- Please follow the instructions of responders.
- These instructions are based on the best information we have right now.
- These instructions may change as we gather more information.
- These instructions are for your safety.

What are you doing to protect people from harm?

- Public safety is our highest priority.
- We are working closely with the other responding agencies at the federal, state and local levels.
- We are working quickly but carefully to assess and mitigate the dangers.
- Follow the instruction from state and local officials and responders.
- These instructions are based off the best information we have right now and may be different for different areas.
- These instructions may change as we gather more information.
- These instructions are for your safety.
- If you are in the area impacted by the explosion, stay inside until you are told otherwise by authorities.
- Building walls, brick, concrete or soil will help protect you from the radioactive material outside.

Is there an immediate danger?

- If you are being told to stay inside, it is because exposure to the radioactive material outside is very dangerous.
- Building walls, brick, concrete or soil can help protect you from the harmful radiation exposure.
- Stay inside until you are told otherwise by local authorities.
- Different areas may be given different instructions.
- If you are given any instruction by local or state officials or responders it is for your safety.

When will it be safe to return to the area?

- A long, difficult cleanup awaits us and the most important goal of the cleanup is to keep people safe.
- First and foremost, if you have been evacuated, do not return until you are told it is safe to do so by authorities.

Terrorism

- Please do not put yourself in danger by attempting to return early.
- Attempting to return early will divert responders' efforts away from those who need immediate assistance.
- Federal, state and local partners are collecting information about the impacted areas to determine the extent and levels of contamination.
- Until this is done we cannot predict when people can return to the area.
- Local and state decision-makers will use the information we collect to determine appropriate safety measures for people in their jurisdictions.

Are people out of danger? Are people safe?

- If you are being told to stay inside, it is because exposure to the radioactive material outside is very dangerous.
- Building walls, brick, concrete or soil can help protect you from the harmful radiation exposure.
- Stay inside until you are told otherwise by local authorities.
- Different areas may be given different instructions.
- If you are given any instruction by local or state officials it is for your safety.

How do I learn about the safety of my family and friends?

- This is an overwhelming situation that is affecting many people.
- At this time, responders are in the process of gathering and organizing all vital information available.
- We encourage you to seek additional information and/or counseling services at [LIST ORGANIZATIONS OR LOCATIONS.].
- We are setting up registries at evacuation centers.

Why are some people being told to stay inside and some people being evacuated?

- This guidance is based on the best information we have right now and are intended to limit radiation exposure and provide protection.
- These decisions are based on factors, such as direction of wind, size of the detonation, how quickly radioactive material disappears and damage to roads and structures along evacuation routes.
- As we gather more information and as the situation changes, protective actions may change.
- Follow the instructions of state and local officials and responders.
- These instructions are for your safety.

How do you decide when to take protective actions, specifically evacuate or shelter (go inside and stay inside)?

Terrorism

- The decision to shelter (go inside and stay inside) or evacuate is made by state and local officials with the support of radiation specialists.
- Officials work with experts to determine the actions that will save the most lives and keep exposure to public as low as possible.
- These decisions are based on radiation science and the best information we have at the time.
- Stay tuned because instructions may change.
- Radiation levels are extremely dangerous after a nuclear detonation but the levels reduce rapidly, in just hours to a few days.
- During the time with the highest radiation levels it is safest to stay inside, sheltered away from the material outside.
- As radiation levels decrease, safety measures may change.
- People in the path of the radioactive plume may also be asked to take protective measures.

Exposure vs. Contamination and Decontamination

An individual is exposed to radioactive material if he/she is close enough to be harmed by it. An individual is contaminated by radioactive material if he/she has radioactive material either in or on his/her body.

Like getting an x-ray at a hospital, the individual is exposed to the x-rays, but cannot pass that exposure on to anyone else after the procedure is finished. Someone who has been exposed to radioactive material does not become radioactive. He/she cannot pass on that radiation to anyone else.

However, a person who is contaminated by radioactive material has radioactive material in or on his/her body. He/she can expose other people. An individual can become contaminated by ingesting or inhaling radioactive materials or walking through contaminated fallout.

If an individual is contaminated he/she continuing to be exposed and expose others to radioactive material and should be decontaminated as soon as possible.

What is the difference between radioactive exposure and contamination?

- Exposure occurs when radiation interacts with the body.
- Exposure can be long-term at low levels, such as that from background radiation (the radiation that is in the environment all the time).
- Exposure can be short-term at a high dose, such as that from a major accident, diagnostic medical imaging or radiation therapy.
- Health effects depend on the strength and length of the exposure.
- You can be exposed to radiation without being contaminated.
- Having a medical x-ray is an example of being exposed but not contaminated.

Terrorism

- During an x-ray, you are exposed to radiation but you don't have radioactive material on your skin or clothing.
- External contamination occurs when radioactive material settles on a surface.
- That surface could be your body or clothing, a structure or an object.
- Contamination also can be internal when radioactive materials are swallowed, inhaled, injected or absorbed.
- If a person is contaminated with radioactive material, he/she is being exposed to radiation.

What is radiation exposure and how does it occur?

- Exposure occurs when radiation interacts with the body.
- Exposure can be long-term at low levels, such as that from background radiation (the radiation that is in the environment all the time).
- Exposure can be short-term at a high dose, such as that from a major accident, diagnostic medical imaging or radiation therapy.
- Health effects depend on the strength and length of the exposure.
- Exposure can be from radioactive material inside the body.
- We receive exposure from radioactive material taken in through eating, inhalation, injection or absorption.
- Our organs and cells can be exposed to radiation from these materials.
- Different kinds of radioactive materials may concentrate in and affect different organs.
- Exposure can be from radioactive material outside the body.
- Radiation from radioactive materials outside the body can interact with the body.
- Sources include background radiation and procedures such as x-rays.
- Sources can be from an accidental release of radiation or from intentional acts of aggression.

What is radioactive contamination?

- Contamination refers to particles of radioactive material settling on a surface - like the way dust settles on a surface.
- That could be on your body or clothing, including your shoes, on a structure or on an object like a purse or a car.
- During a radiological emergency, a person or thing can leave the area of a release of radioactive material and still be contaminated.
- Radioactive contamination can spread in the same way that dust or mud can be tracked into the home or spread to another person or object.
- While radioactive contamination can spread through physical contact, radiation is not infectious or contagious like some diseases.
- It can be easily removed.
- If you are or were in a contaminated area, listen for public announcements on how to decontaminate (remove the contamination).

Terrorism

How long do I have to remove contamination from my body?

- Remove contamination as soon as possible to reduce the chance of harm.

Can radiation be spread from person to person?

- Radioactive dust that produces the radiation can be spread in the same way that regular dust or mud can be tracked into the home or by touching another person or object.
- However, radiation is not contagious like some infectious diseases.

What is decontamination?

- Decontamination is the removal of particles of radioactive material from people, clothing, pets or objects, usually by simple washing.
- Decontamination may be necessary after a radiological release.
- Radioactive particles (fallout) can settle on clothes, skin, hair, buildings and objects.
- Decontaminating yourself will reduce your exposure to harmful radioactive particles.
- The longer the particles stay on your skin, the more harm they can do.
- Decontamination may be the only step needed after a radiological emergency.
- Immediate decontamination is recommended if you or your possessions have become contaminated during a radiological emergency.
- Decontamination centers may be set up to help with decontamination and to prevent the spread of contamination.
- Follow the directions of the emergency responders to ensure effective decontamination.

What should I do if I think I may have been contaminated?

- If you think you have been contaminated, the best thing to do is take a shower. If the safety of running water is unknown, do NOT bathe in it. Use stored water, wet wipes, safe water from your water heater and toilet tank to wash with.
- Do not touch other people. A person can spread the radioactive material if it is on their skin, clothes or hair. People can also spread radioactive material if it is in their body fluids, such as vomit. If someone comes into contact with radiation in these ways, they may become ill.
- Remove your clothing (being careful not to inhale contamination or get it into your mouth or eyes); put it in a plastic bag and place it outside or in an out-of-the-way area.
- Remove your outer layer of clothing including shoes or boots.
- When removing clothing, do not pull clothes over your head. If necessary, cut clothes off.
- Cover your mouth and nose with a cloth while disrobing to prevent accidentally inhaling or ingesting radioactive material.
- Shower using lukewarm water and lots of soap and water your hair. Do not put conditioner on your hair.
- Be careful not to scratch the skin.

Terrorism

- If you have water but cannot shower, remove the outer layer of clothing and wash exposed areas.
- This can remove up to 90% of the contamination.
- Place the clothing in a plastic bag; leave it outside or in an out-of-the-way area.
- When dusting off your hair or clothing, stand away from other people and be careful not to breathe in the dust or get it in your mouth or eyes.
- Wash exposed skin using lots of soap and lukewarm water.
- If you don't have access to water, use one of the following:
 - It is best to clean off with a moist towelette, wet nap or baby wipe.
 - Otherwise, clean off with a dry paper towel or cloth.

How do I decontaminate my pet?

- Radioactive fallout is particulate and could contaminate people and pets as dust particles.
- Contact with and movement of contaminated animals might expose individuals and items in the pathway to the contaminant.
- If you must decontaminate your pet, the suggested method is to:
 - Bathe your pet thoroughly with shampoo and water and rinse completely.
 - Wear waterproof gloves, an apron and if possible, a dust mask to protect you from (further) contamination, including inhaling fallout dust.
 - Follow local jurisdictional guidance on the disposal of bath water and items coming into contact with contaminants.

What can I do to decontaminate my home?

- You need to get information from emergency responders or local officials on whether you need to decontaminate your home.
- If you need to decontaminate your home, get guidance from emergency responders or local officials.
- This will likely contain information on wearing protective clothing when cleaning.
- There are likely to be special instructions for cleaning the inside of your home
- There are likely to be instructions for cleaning the outside of your home.

Infrastructure Damage

How much radiation-related damage has occurred?

- The extent of the damage and contamination is currently being assessed.
- Complete assessment will take time.

What is the initial assessment of damage to the city that was attacked?

Terrorism

- This attack caused major infrastructure damage in the [AREA] (As appropriate, provide updates on the status of power outages, communications outages, water systems, sewage systems, road and bridge conditions.).
- We will not be able to do a full assessment until it is safe for experts to enter the area.
- It may take days, months and in some cases, years to get systems fully functional again.
- We are taking the following steps to bring damaged systems back on line:
 - (Provide information on steps being taken to bring systems back up online)

What are the effects on national infrastructure?

- At this time we don't know if there will be any long-lasting effects on national infrastructure.
- The attack caused major damage in the [AREA] (As appropriate, provide updates on the status of power outages, communications outages, water systems, sewage systems, road and bridge conditions.) (Provide information on steps being taken to bring systems back up online.

Emergency Response Capabilities

What is being done in response to what has happened?

- It is still early in the response, and our focus is on saving lives.
- Specialized teams are assessing the nature and extent of the damage and radioactive contamination.
- The federal, state and local responders are coordinating closely to respond as effectively as possible.
- State and local officials have issued safety instructions.
- We are asking people to follow these instructions and stay tuned.
- Instructions may change as we get more information.
- These instructions are for your safety.

Who is responsible for managing the response?

- With an incident of this size, it is a joint effort among local, state and federal responders.
- We are coordinating to maximize our assets and respond as quickly and safely as possible.

How are state and local personnel resources responding?

- Public safety is our highest priority.
- We are working closely with the other responding agencies at the federal, state and local levels.
- We are working quickly but carefully to assess and mitigate the dangers.
- Follow the instruction from state and local officials and responders.
- These instructions are based off the best information we have right now and may be different for different areas.
- These instructions may change as we gather more information.

Terrorism

- These instructions are for your safety.
- If you are in the area impacted by the explosion, stay inside until you are told otherwise by authorities.
- Building walls, brick, concrete or soil will help protect you from the radioactive material outside.

What is the federal government doing to respond?

- The federal government is operating and doing everything possible to help the nation get through this.
- The federal, state and local responders are coordinating closely to respond as effectively as possible.
- Across the county, federal responders have deployed and officials continue to coordinate resources.
- The federal government is following existing emergency response plans for maximizing resources, coordinating across all levels of government and ultimately helping those in need.

When will it be safe for response personnel to enter the affected area?

- Responders are working to save lives as close to the impacted area as possible.
- We need to keep our responders safe so they can do their job.
- We will keep you updated on the situation.

Which areas are safe for first responders to enter?

- For their protection, emergency responders may enter contaminated areas for only a limited amount of time.
- Guidelines established by experts in the effects of radiation on the human body are used by emergency responders to determine where they can go and how long they should stay.
- Special devices measure levels of radioactivity in various areas so emergency responders can determine if and how long they should stay in contaminated areas.

Is there a body of experts that deals with the impact of a nuclear attack?

- We have experts that specialize in the effects of radiation on the human body and the environment.
- Their knowledge will help us understand the potential impacts of this nuclear detonation.
- Radiation experts are working closely with state and local officials as they make health and safety decisions.

How soon will a map displaying the areas affected be available?

- Initial maps showing the areas where the radioactive dust is going and locations where actions need to be taken are being developed.

Terrorism

- The initial maps are based on very limited information.
- Until we have more information, the maps are based on best guesses.
- As we gather actual monitoring and sampling data and apply it to the map, the map may look very different.
- The maps will be updated and shared as more information is obtained.

Environmental Monitoring

How do you monitor/detect radiation?

- Specialized instruments are used to detect radiation.
- There is no one detector that measures all types of radiation.
- There are specialized emergency responders who are trained and skilled using these instruments.

How do you distinguish between background radiation and radiation from the incident?

- Distinguishing between background radiation and radiation from a specific event is not easy.
- In some areas we have historical, baseline data on background radiation levels.
- In a situation like a nuclear detonation, there will be areas where radiation levels are clearly above background levels.
- As we gather more information, our radiation scientists will help identify radioactive material from this event.

Is there a plan to let people know what areas are contaminated and which ones are not?

- Monitoring and sampling is being conducted to confirm the locations of the affected and unaffected areas.
- An extensive monitoring and sampling plan will be developed.
- It is important to identify areas that have not been contaminated for use in future planning.

What are the environmental impacts of a nuclear detonation?

- Federal, state and local partners are taking environmental samples of radiological contamination, as well as other environmental contamination, to get a better picture of the extent of the environmental impacts.
- Until we figure out the extent of the contamination we won't know what the environmental impacts are from this attack.

Population Monitoring

Where can I go to be checked for radiation contamination or exposure?

- Tune in to your local TV news or radio for more information about the situation and specific instructions.
- Follow instructions of your state and local officials and responders.

Terrorism

- Your local officials may set up community reception centers within days after the explosion to check people for radiation contamination and assist them with needed services.

How do people know if they have been exposed?

- Tune in to your local TV news or radio station for more information about the situation and specific instructions.
- Emergency responders will monitor the levels of radiation and state and local government officials will use this information to determine areas of concern.
- We will keep you informed as we get more information.

How are you tracking people who have been exposed?

- Tune in to your local TV news or radio for more information about the situation and specific instructions.
- Your local officials may set up community reception centers within days after the blast to check people for radiation contamination and assist them with needed services.

Why are you tracking people who have been exposed?

- The registry allows us to follow up with people who need immediate health care and allows us to do long-term health monitoring for individuals who have been exposed to radiation from detonation.
- Being part of the registry does not imply any form of future compensation.
- The registry is for tracking purposes only.

International Interest

How will this impact our import/export relationships with other countries?

- Right now we are focusing on saving lives.
- We will not know the impact on commerce until we fully assess the radiation contamination and the extent of damage caused by the nuclear detonation.

Are we tracking the plume as it moves around the Earth?

- We are responding to this devastating event and monitoring the path of the radioactive plume and the radioactive fallout from the explosion.
- Right now, we are concerned about identifying areas of concern for potential harmful radiation exposures and contaminated areas.
- As the plume moves and radioactive material falls to the ground, the air becomes less hazardous.

Will this impact air travel?

- Until we have more information, expect air travel to be restricted.

Terrorism

- This is to keep pilots and passengers safe.
- It also keeps the air space free for air monitoring and the continued investigation.

Will this impact use of navigable waterways?

- Until we have more information, expect the use of navigable waterways to be restricted.
- This is to keep mariners, other waterway users, and passengers safe.
- It also keeps the waterways free for response and recovery activities and the continued investigation.

Where did the bomb come from? Are you working with other countries to track down those responsible for the attack?

- The FBI is leading a coordinated criminal investigation with the support of its law enforcement partners and other federal, state and local agencies.
- The investigation is in its early stages and the information we can provide now is limited.
- Early indications are that this was a deliberate attack using an improvised nuclear device.
- The United States government is using all available means to determine who is responsible for this attack.

What are the potential economic impacts?

- This attack has affected both the area impacted by the explosion as well as people across the nation and across the world.
- We know that there has been extreme damage to buildings and infrastructure in the blast area.
- We are working to gather more information to understand the full impact.

Roles and Responsibilities

Who is in charge?

- The federal government is dedicating their assets to support the state and local governments and responders who are at the forefront of the response.
- The Department of Homeland Security is leading the federal response.
- The FBI is leading the coordinated criminal investigation.
- The federal, state and local responders are coordinating closely to respond as effectively as possible.
- Safety instructions have been given by state and local officials and responders.
- We are asking people to follow these instructions and stay tuned.
- Instructions may change as we get more information.
- These instructions are for your safety.

How are you coordinating the response?

Terrorism

- We are using our existing emergency response plans to coordinate the response and keep communication flowing among all parties.
- The state and local governments are at the forefront of the response.
- The federal government is dedicating their assets to support the state and local governments and responders.

Radiation and Improvised Nuclear Device (IND) Overview

What is an Improvised Nuclear Device (IND)?

- An IND is a nuclear explosive made from stolen or illegally produced nuclear material.
- An IND creates an extremely destructive [nuclear/radiological incident] with very high radiation levels.
- The blast, heat and radiation from an IND detonation can cause massive casualties and significant damage to infrastructure.
- People in areas not affected by the explosion could be exposed to radiological fallout, which are radioactive particles that settle to the ground after the explosion.
- Close to the detonation radiation levels can cause sickness and even death without the adequate shelter.
- Areas hundreds of miles downwind are susceptible to lower levels of radioactive fallout.
- Radiation levels from fallout decrease rapidly as various radioactive materials disappear.
- After an IND explosion, it is most important to follow instructions from your state and local officials and first responders.
- You may be asked to evacuate or seek shelter (go inside and stay inside).
- These decisions will be influenced by a number of factors including weather, traffic, damage to buildings and roadways, levels of radioactivity and movement of the radioactive plume.

What is a nuclear explosion?

- A nuclear explosion involves a blast that produces an intense wave of heat, light, air pressure and radiation.
- When such an explosive device detonates, a large fireball is created. Everything inside this fireball vaporizes and creates a mushroom cloud.
- As the fireball cools, it condenses, forms particles and falls back to the earth; this is known as fallout.
- Fallout is dangerous because it contains radioactive particles.
- The radioactive particles in fallout can be carried long distances by wind currents before they fall back to the earth.
- It is important to note that radiation levels from fallout decrease rapidly.
- Radiation levels are extremely dangerous after a nuclear detonation but the levels reduce rapidly, in just hours to a few days.
- This does not mean that the material is not harmful.

Terrorism

- Scientists who specialize in radiation safety are helping us determine the best action to limit radiation exposure and protect from contamination.
- Follow instructions from state and local officials and responders. These instructions are for your safety.

Hazards of nuclear devices

The extent, nature and arrival time of these hazards are difficult to predict. The geographical dispersion of hazard effects will be defined by the following:

- Size of the device. A more powerful bomb will produce more distant effects.
- Height above the ground the device was detonated. This will determine the extent of blast effects.
- Nature of the surface beneath the explosion. Some materials are more likely to become radioactive and airborne than others. Flat areas are more susceptible to blast effects.
- Existing meteorological conditions. Wind speed and direction will affect arrival time of fallout; precipitation may wash fallout from the atmosphere.

How far will the radioactive material travel?

- The radioactive plume will go for a considerable distance.
- As it moves within the upper air flow, radioactive particles will be deposited along the path.
- This is referred to as fallout.
- It is important to note that the further away you are from the point of the explosion, the less airborne radioactive material will reach your area.
- The larger particles, containing greater amounts of radioactive material, fall to the ground in the area closest to the explosion.
- People within the path of plume should pay attention to local and state officials and responders for instructions.

How will rain affect the fallout?

- Fallout, which is debris rose by the blast, will be rinsed out of the atmosphere by precipitation of any type, such as rain or snow.

What is radiation?

- Radiation is the release of energy from unstable atoms in the form of particles or waves.
- Everything is made of atoms.
- Some atoms are unstable and release energy to become stable.
- These atoms are radioactive.
- Radiation can be detected using special equipment.

Terrorism

- People cannot see, smell, hear, feel or taste radiation.
- With the correct instruments, radiation is easily detectable.
- Radiation affects people by depositing energy in body tissue.
- When an incident occurs, scientists can predict how much radiation energy a person might absorb.
- There is a direct relationship between how much radiation energy a person absorbs (dose) and potential health effects.
- Unnecessary radiation exposure should be avoided.

What is ionizing radiation?

- Ionizing radiation can remove electrons from atoms.
- The removal of electrons can begin chemical processes that change materials.
- In living organisms, this could alter DNA or other structures in the cells.
- Unnecessary exposure to ionizing radiation should be avoided.

What is the difference between ionizing and non-ionizing radiation?

- Ionizing radiation can remove electrons from atoms.
- The removal of electrons can begin chemical processes that change materials.
- In living organisms, this could alter DNA or other structures in the cells.
- When we talk about radiation from a nuclear detonation, we are talking about ionizing radiation.
- Non-ionizing radiation does not have enough energy to remove electrons from atoms.
- Examples of non-ionizing radiation include microwaves, radio waves, visible light and sunlight.

What is the difference between alpha, beta, and gamma radiation? How can you protect yourself?

- There are three major types of radiation:
 - Alpha particles:
 - Alpha particles cannot penetrate most matter. A piece of paper or outer layers of skin is sufficient to stop alpha particles.
 - Radioactive material that emits alpha particles (alpha emitters) can be very harmful when inhaled, swallowed or absorbed into the bloodstream through wounds.
 - Beta particles:
 - Beta particles can be stopped by a layer of clothing or by a few millimeters of a substance such as aluminum.
 - Beta particles are capable of penetrating the skin and causing radiation damage, such as skin burns.
 - As with alpha emitters, beta emitters are most hazardous when they are inhaled or swallowed or absorbed into the bloodstream through wounds.

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Neutrons: SPACING?

- Neutrons are particles and are very penetrating. Several feet of concrete or another material rich in hydrogen (i.e. water) are required to stop them.
- Neutrons are a radiation hazard for the entire body.
- Neutrons interact with tissue in the body and can make the body radioactive in some cases.
- Neutrons are only a hazard close to and during the initial blast.

Gamma rays and x-rays:

- Gamma rays are very penetrating. Several feet of concrete or a few inches of lead are required to stop gamma rays. X-rays are not as penetrating.
- Gamma rays are a radiation hazard for the entire body.
- While gamma rays can easily pass completely through the human body, some fraction of the energy will always be absorbed by body tissue.
- X-rays are very similar to gamma rays. Materials which stop gamma rays can stop x-rays.

What should we know about low levels of radiation?

- Radiation, from natural and man-made sources, is always around us. This is called background radiation.
- It is reasonable to assume that less radiation exposure is better.
- Scientific studies show that there is some risk from low levels of radiation.
- Take all reasonable precautions to reduce exposure.
- There are steps you can take to limit exposure.
- Similar to wearing a lead apron for a dental x-ray, getting inside a strong building or in a basement can provide shielding from radiation exposure.
- During an emergency, listen to state and local officials and responders for instructions.
- Advice given during emergencies is meant to limit exposure.

Radioactive fallout

Even if individuals are not close enough to the nuclear blast to be affected by the direct impacts, they may be affected by radioactive fallout. Any nuclear blast results in some fallout. Blasts that occur near the earth's surface create much greater amounts of fallout than blasts that occur at higher altitudes. This is because the tremendous heat produced from a nuclear blast causes an up-draft of air that forms the familiar mushroom cloud. When a blast occurs near the earth's surface, millions of vaporized dirt particles also are drawn into the cloud. As the heat diminishes, radioactive materials that have vaporized condense on the particles and fall back to Earth. The phenomenon is called radioactive fallout. This fallout material decays over a long period of time, and is the main source of residual nuclear radiation.

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Fallout from a nuclear explosion may be carried by wind currents for hundreds of miles if the right conditions exist. Effects from even a small portable device exploded at ground level can be potentially deadly.

Nuclear radiation cannot be seen, smelled or otherwise detected by normal senses. Radiation can only be detected by radiation monitoring devices. This makes radiological emergencies different from other types of emergencies, such as floods or hurricanes. Monitoring can project the fallout arrival times, which will be announced through official warning channels. However, any increase in surface build-up of gritty dust and dirt should be a warning for taking protective measures.

How much radiation is safe? How much radiation is considered low risk?

- Scientific studies show that there is some risk from low levels of radiation.
- Radiation, from natural and man-made sources, is always around us. This is called background radiation.
- It is reasonable to assume that less radiation exposure is better.
- There are steps you can take to limit exposure.
- Similar to wearing a lead apron for a dental x-ray, getting inside a strong building or in a basement can provide shielding from radiation exposure.
- During an emergency, listen to state and local officials and responders for instructions.
- Advice given during emergencies is meant to limit exposure.

Who sets radiation exposure limits?

- It takes a large dose of radiation to cause immediate effects (i.e. acute radiation sickness).
- Federal agencies like the Environmental Protection Agency and the Food and Drug Administration and others provide guidance on levels of radiation that may warrant taking protective actions.
- Specialists from these and other agencies are advising state and local officials and emergency responders accordingly.
- It is important to act based on the safety instructions given by state and local officials and emergency responders.

What does background radiation mean?

- Background radiation is radiation that is always around us.
- Background radiation comes from natural sources such as rocks, soil and cosmic radiation from the sun.
- Background radiation may also include some man-made sources, such as fallout from weapons testing that occurred years ago.
- Everyone is exposed to background radiation.

Terrorism

- Exposure to background radiation varies across the country.
- This can be due to elevation – the higher up, the more exposure to cosmic radiation.
- It can be due to rock composition - some kinds of rocks contain more radioactive materials than others.
- It can be due to the uneven distribution of fallout from nuclear weapons testing and international incidents that released radioactive material.

What are rems and millirems? How are they measured?

- In the United States, we use a unit called a rem to measure how much radiation a person has absorbed, otherwise known as radiation dose.
- A millirem (mrem) is one thousandth of a rem.
- To put radiation absorption into perspective, the collective dose for cancer treatment patients who receive external beam radiotherapy (one of the most aggressive radiation cancer treatments) is approximately 40 rem (40,000 millirem).
- Scientists estimate that the average person in the United States receives a dose of about 620 millirem of radiation per year.
- Approximately 300 mrem per year is from natural, or background sources.
- Exposure from medical sources will vary based on the individual, but may account for an additional 320 mrem per year, averaged over a person's lifetime and the population.
- Scientists use complex tools to measure, analyze and calculate how much dose a person receives following a radiological incident.

Electromagnetic pulse:

In addition to other effects, a nuclear weapon detonated in or above the earth's atmosphere can create an electromagnetic pulse (EMP), a high-density electrical field. An EMP acts like a stroke of lightning but is stronger, faster and shorter. An EMP can seriously damage electronic devices connected to power sources or antennas. This includes communication systems, computers, electrical appliances and automobile or aircraft ignition systems. The damage could range from a minor interruption to actual burnout of components. Most electronic equipment within 1,000 miles of a high-altitude nuclear detonation could be affected. Battery-powered radios with short antennas generally would not be affected. Although an EMP is unlikely to harm most people, it could harm those with pacemakers or other implanted electronic devices.

Health Effects of Radiation Exposure

Radioactive material has been detected outside the areas where protective actions have been recommended or taken. What is the health impact of this contamination?

- Radiation, from natural and man-made sources, is always around us.

Terrorism

- This is called background radiation.
- We are monitoring and sampling to find areas where background radiation levels have been exceeded requiring that actions be taken to protect individuals from immediate health effects, such as radiation sickness, and limit potential long-term health effects, such as cancer.
- It takes a very large dose of radiation to cause immediate health effects, such as radiation sickness.
- If you have been asked to take a protective action it is because it is for your safety.

Does exposure to radiation present some risk?

- Radiation, from natural and man-made sources, is always around us. This is called background radiation.
- Scientific studies show that there is some risk from low levels of radiation.
- We always assume less radiation is better.
- There are steps you can take to limit exposure.
- In general, to limit exposure from a radioactive source decrease time around and increase distance and shielding from a radioactive source.
- During an emergency, listen to state and local officials and responders for instructions.
- Advice given during emergencies is meant to limit exposure.

Who sets radiation exposure limits?

- It takes a very large dose of radiation to cause immediate health effects, such as radiation sickness.
- Federal agencies like the Environmental Protection Agency and the Food and Drug Administration and others define levels of radiation that warrant protective actions.
- Radiation specialists from these and other agencies are advising state and local officials and emergency responders accordingly.
- Please listen and heed the safety instruction of state and local officials and emergency responders.

What are the health effects of radiation exposure?

- The health effects of radiation depend on the amount of radiation, type of radiation, the type of radioactive material and length of time a person is exposed to radiation.
- Seek medical attention immediately if you have these symptoms: skin burns, nausea and vomiting.
- There are some treatments available for people exposed to certain types of radioactive material.
- Local emergency workers and medical professionals will determine if medical treatments are needed and what kind of medical treatment to provide.

Does radiation cause cancer?

Terrorism

Cancer has been attributed to a number of causes:

- Radiation, often from natural radon.
- Exposure to chemicals, including some pesticides.
- Genetic disposition.
- Smoking.
- Even diet.
- Radiation from background and other routine sources is a minor contributor to our overall cancer risk.
- Cancer has been associated with high doses of radiation received over very short periods of time.
- The risk of radiation causing cancer increases with the level of exposure.
- During an emergency listen to local officials for instructions.
- Advice given during emergencies is meant to limit unnecessary exposure.
- Follow instructions to minimize exposure.

What type of radiation is most harmful?

- Radioactive materials that emit alpha and beta particles are most harmful when swallowed, inhaled, absorbed or injected.
- Alpha particles cannot penetrate intact skin; beta particles can penetrate skin only partially.
- Gamma and x-rays can pass through a person damaging cells in their path.
- Neutron radiation present during nuclear reactions is as penetrating as gamma rays.

Are certain populations more vulnerable to the effects of radiation than others?

- For all populations, we assume that less radiation is better.
- Radiation vulnerability is difficult to determine.
- Pregnant women, infants and young children are assumed to be more susceptible to the health effects of radiation exposure.
- The steps for reducing radiation exposure are the same for all populations.

How do I know if I have been exposed to radiation and what happens if I am?

- If you are near an incident, you may have been exposed to radiation and you may also be contaminated by radioactive material.
- You may not experience any immediate health effects.
- A very large dose of radiation may cause skin burns, nausea and vomiting.
- If you have these symptoms, seek medical attention immediately.

How is radiation exposure treated?

- Low-level radiation exposure may not cause symptoms or health effects or require treatment.

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- The Centers for Disease Control and Prevention and the Radiation Emergency Assessment Center/Training Site are the federal leads on treatment of radiation exposure.
- Seek medical attention if you think that you were exposed to high levels of radiation.
- There are treatments available for people with radiation sickness.
- There are limited medical treatments available for internal (inside the body) radiation contamination.
- Local emergency workers and medical professionals will monitor (evaluate, check) the situation to determine if medical treatments are needed and what kind of medical treatment to provide.
- You can reduce radioactive contamination by washing with soap and water.
- Seek medical attention immediately if you have these symptoms: skin burns, nausea, and vomiting.

Should I take potassium iodide (KI)

- If radioactive iodine is present, then taking KI will help protect a person's thyroid gland from the radioactive iodine.
- Local emergency management officials will tell people when to take KI.
- If a nuclear incident occurs, officials will have to find out which radioactive substances are present before recommending that people take KI. If radioactive iodine is not present, then taking KI will not protect people.
- Taking KI will not protect people from other radioactive substances that may be present along with the radioactive iodine.

Am I at risk for radiation poisoning or sickness?

- Radiation sickness only occurs when a person is exposed to very high levels of radiation.
- If you were in the immediate area of a major incident, follow the directions of emergency responders
- If you experience skin burns, nausea and/or vomiting, seek medical attention immediately.

What is Acute Radiation Syndrome/Sickness (ARS)?

- ARS is an illness from short-term exposure to a large amount of radiation.
- You cannot get ARS from chronic long-term exposure to small amounts of radiation.
- The radiation must reach internal organs.
- Symptoms appear within minutes or days.
- It is important to know the signs and symptoms.
- Signs of ARS include skin burns, nausea or vomiting.
- The symptoms may subside and come back.
- ARS can lead to death.
- Seek medical attention immediately if you think you are suffering from ARS.

Terrorism

How do I know if I have Acute Radiation Syndrome/Sickness (ARS)?

- You can only get Acute Radiation Syndrome (ARS) from short-term exposure to a large amount of radiation.
- ARS occurs when most of the body was exposed to high levels of radiation.
- The radiation must reach internal organs.
- ARS only occurs in extreme circumstances.
- Initial symptoms may begin from minutes to days after exposure.
- Symptoms include skin burns, nausea and vomiting.
- These symptoms may come and go in the first few days.
- Symptoms may completely go away and the person may feel healthy.
- Additional symptoms can occur weeks and months after exposure.
- Loss of appetite, fatigue, fever, nausea, vomiting, diarrhea, seizures and/or a coma.
- There may also be skin damage.
- This stage of serious illness can last for months.

What do I do if I am pregnant?

- Tell emergency workers that you are pregnant so that they can check your health and the health of your baby.
- Call or visit your doctor or OB/GYN as soon as possible.

What do I do if I am a nursing mother?

- Some harmful substances can be passed through breast milk. If you are near an incident, you may have been exposed to radiation or radioactive contamination.
- If you think you have been contaminated by radioactive fallout, medical workers may tell you to use formula.
- Tell emergency workers that you are breastfeeding so they can tell you if it is safe to continue to breastfeed.